

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
23 December 2004 (23.12.2004)

PCT

(10) International Publication Number
WO 2004/110292 A3

(51) International Patent Classification⁷: **A61B 17/74**

(21) International Application Number:
PCT/IL2004/000508

(22) International Filing Date: 13 June 2004 (13.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/477,784 12 June 2003 (12.06.2003) US

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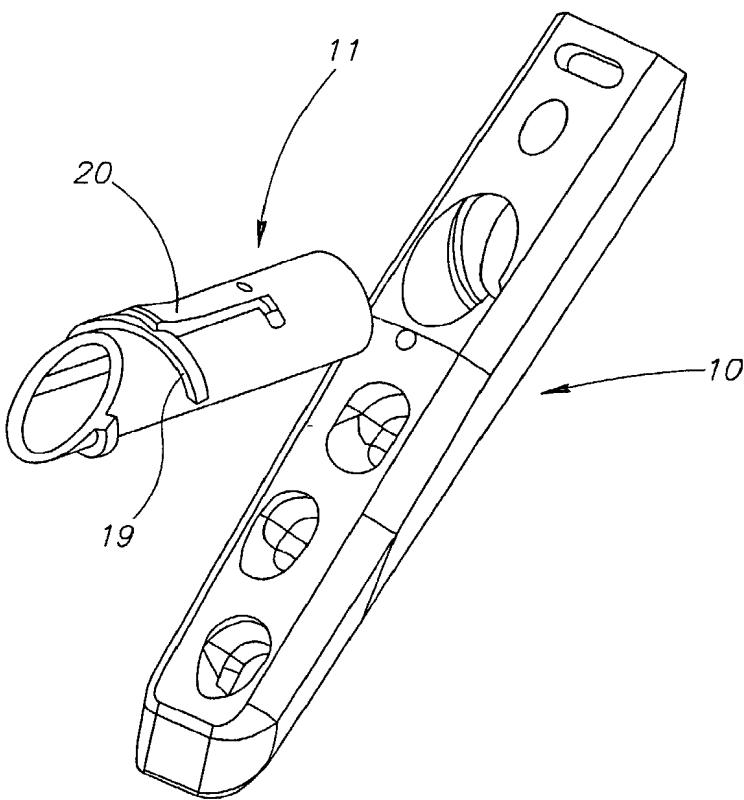
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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: PLATE DEVICE



(57) Abstract: A hip plate, comprising: a plate body adapted to be attached to a femur or other bone; and at least one lag screw adapted for insertion into a femoral head or other bone protrusion and rotationally lockable to said plate.

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GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
17 March 2005

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IL2004/000508

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61B17/74

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003/078581 A1 (FREI RETO ET AL) 24 April 2003 (2003-04-24) page 2, paragraph 18 - page 3, paragraph 21 figures 3-5 ----- PATENT ABSTRACTS OF JAPAN vol. 0153, no. 88 (C-0872), 2 October 1991 (1991-10-02) & JP 3 158150 A (KIJURO HAYANO), 8 July 1991 (1991-07-08) abstract; figures ----- FR 2 686 788 A (HARDY JEAN MARIE) 6 August 1993 (1993-08-06) page 6, line 4 - page 7, line 30 figures 1,2 ----- -/-	1-3, 22-28 1-5,7,8, 22-28 1-5,7,9, 22-28 -/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority, claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

16 September 2004

Date of mailing of the international search report

09 FEB 2005

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INTERNATIONAL SEARCH REPORTInternational Application No
PCT/IL2004/000508**C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 2002, no. 07, 3 July 2002 (2002-07-03) & JP 2002 065687 A (HOMUZU GIKEN:KK), 5 March 2002 (2002-03-05) abstract; figures -----	1-3,6,7, 9,22-28

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL2004/000508

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: **34-43**
because they relate to subject matter not required to be searched by this Authority, namely:
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery
2. Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-9, 22-28

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
 No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-9,22-28

Hip plate assembly, comprising one lag screw and a plate body having a removable barrel guide for said lag screw.

2. claims: 1,10-16

Hip plate assembly comprising a hip plate and a lag screw for insertion through said plate, wherein said lag screw has an expandable head for secure fitting in the femoral head.

3. claims: 1,17-21

Hip plate assembly comprising a hip plate and a lag screw for insertion through said plate, wherein said screw has means to limit its axial and rotational movement in said plate.

4. claims: 29-33

Hydraulic apparatus for generic bone implant removal.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IL2004/000508

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 2003078581	A1	24-04-2003	WO AT AU CA DE DK EP JP	0176493 A1 277562 T 3548400 A 2444060 A1 50008036 D1 1272116 T3 1272116 A1 2003531654 T	18-10-2001 15-10-2004 23-10-2001 18-10-2001 04-11-2004 13-12-2004 08-01-2003 28-10-2003	
JP 3158150	A	08-07-1991	JP JP	1864715 C 5081254 B	08-08-1994 12-11-1993	
FR 2686788	A	06-08-1993	FR EP WO JP	2686788 A1 0578807 A1 9315678 A1 6509490 T	06-08-1993 19-01-1994 19-08-1993 27-10-1994	
JP 2002065687	A	05-03-2002	NONE			